

**Table I-16a**  
**Comparison of Bridge Capacity Mainstem Channel**

Bridge	Capacity <sup>1</sup>	Average Return Frequency <sup>2</sup>	
	cfs	1978	1997
84th Street (6900 S)	700	N/A	25
70th Street (7900 S)	2500	N/A	>100
Pine Lake Road ((6300 E)	4200	>100	100
56th Street (6200 S)	2100	20	6
Old Cheney Road (5500 E)	5400	>100	100
BNSFRR (5200 E)	4400	100	10
Highway 2 (5200 E)	4400	100	10
48th Street (5000 S)	6300	>100	>100
40th Street (4900 S)	3600	50	7
Highway 2 (3800 E)	6300	>100	50
BNSFRR (3800 E)	4000	80	10
27th Street (4400 S)	8000	>100	33
Southwood Drive (4400 S)	6400	>100	14
Railroad spur (4400 S)	11000	>100	>100
Highway 77 (1400 E)	6000	83	8
Penitentiary Bridges	8400	>100	35
Pioneers Boulevard (100 E)	8400	>100	30
BNSFRR (100 E)	8400	>100	30

1. Capacity is defined as the flow rate that occurs prior to roadway overtopping.
2. Number of years (on average) that can be expected between overtopping events. For example, the Highway 77 bridge has a capacity before overtopping the road of 6000 cfs. In the FIS the 1% return frequency storm (100-year) flow rate is listed as 6590 cfs and the 2% return frequency storm (50-year) flow rate is 5350 cfs. By interpolation on probability paper, the bridge capacity would be equivalent to the 1.2% return frequency storm or on average the bridge can be expected to be overtopped every 83 years based on FIS flow rates. Based on our analysis of 1997 conditions 6000 cfs can be expected to occur, on average, every 8 years.